

N

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 11-112376

(43)Date of publication of application : 23.04.1999

(51)Int.Cl. H04B 1/26  
H04B 1/08  
H04B 1/16  
H04B 1/18

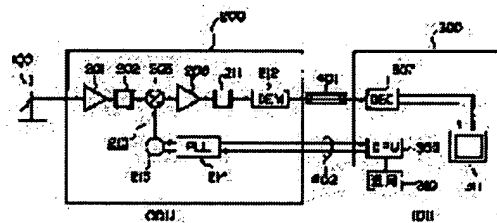
(21)Application number : 09-282949 (71)Applicant : MITSUMI ELECTRIC CO LTD  
(22)Date of filing : 30.09.1997 (72)Inventor : YAGUCHI SADA O  
MIYATA MASA AKI

## (54) SATELLITE BROADCAST RECEPTION SYSTEM

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To simplify the constitution and to lower the price by allowing an exterior device to include a phase-locked loop for setting a local oscillation frequency, convert a signal received by an antenna into a low-frequency digital signal, and send it into a house through a multicore cable.

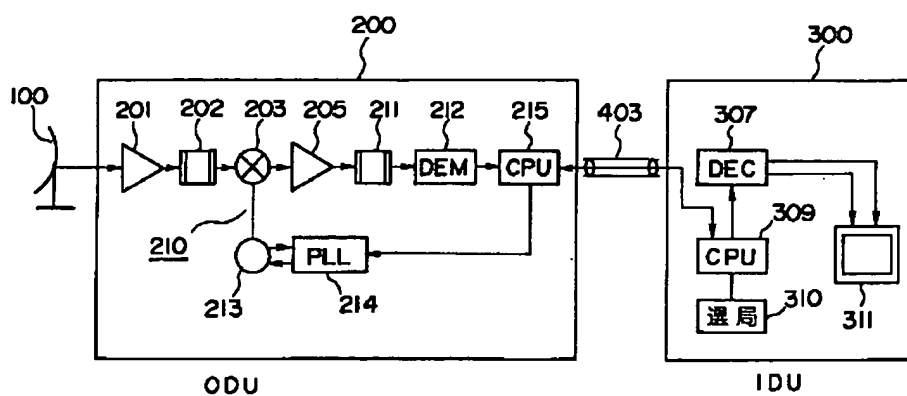
**SOLUTION:** An outdoor device 200 amplifies the satellite broadcast radio wave received by the antenna 100 and converts and amplifies it to an intermediate frequency by a frequency converting circuit 210, and a demodulating circuit 212 demodulates the signal into a lowfrequency digital signal and outputs it through an inexpensive coaxial cable 401. An indoor device 300 decodes the low-frequency digital signal into an analog video and sound signal by a decoder 307 to display the signal on a display unit 11 and reproduces its sound. A CPU 309 sends an error signal corresponding to the user's operation of a channel selection key 310 to PLL 214 which controls the local frequency oscillator 213 of the indoor device 300 through the multicore cable 402 to select a channel. Consequently, only one frequency converting circuit is needed to simplify the circuit constitution. Here, cables are reducible to one inexpensive composite multicore cable.



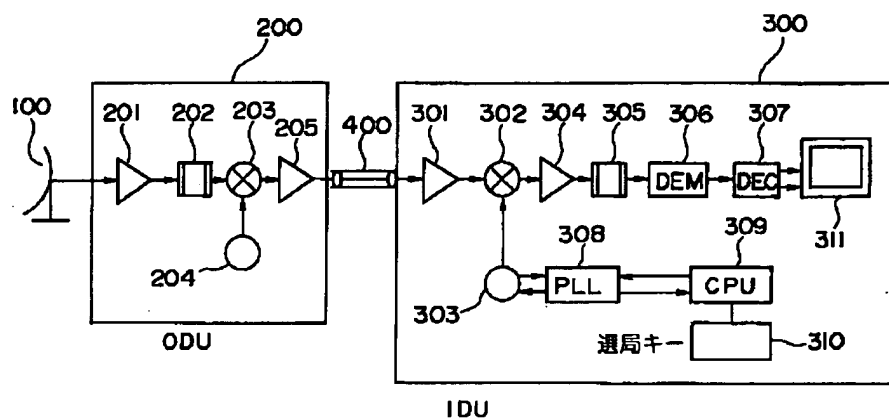
frequency used as the input of another side of this mixer, Have the phase-locked loop which sets up the oscillation frequency of this oscillator, and said 1st CPU inputs an error signal into said phase-locked loop. Said 2nd CPU is the satellite broadcasting service receiving system of claim 3 characterized by being what supplies the channel selection information which becomes the radical of said error signal to said 1st CPU.

---


[Translation done.]

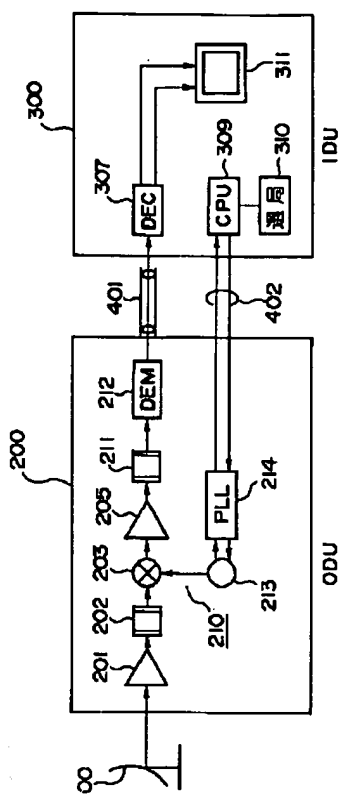
Drawing selection 

[Translation done.]

Drawing selection ☒ drawing 3

[Translation done.]

Drawing selection Representative drawing 



[Translation done.]

\* NOTICES \*

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

CLAIMS

---

[Claim(s)]

[Claim 1] It is a satellite broadcasting service receiving system equipped with the antenna which receives the electric wave from a broadcasting satellite, the outdoor arrangement installed in a RF side, and the indoor arrangement installed in a low frequency side. Said outdoor arrangement The frequency changing circuit which changes into an intermediate frequency signal said electric wave received with said antenna, It has the demodulator circuit which restores to the output of this frequency changing circuit to the digital signal of low frequency. Said indoor arrangement The decoder which decodes the digital signal from said demodulator circuit to the video signal and sound signal of an analog, The 1st multi-conductor cable which has CPU which the local oscillation frequency of said frequency changing circuit is changed, and tunes it in, and transmits said digital signal to said indoor arrangement from said outdoor arrangement further, The satellite broadcasting service receiving system characterized by having the 2nd multi-conductor cable which connects between said CPUs and said frequency changing circuits.

[Claim 2] Said frequency changing circuit is the satellite broadcasting service receiving system of claim 1 which is equipped with the frequency mixer which considers said electric wave as one input, the variable frequency oscillator which generates the RF signal of the local oscillation frequency used as the input of another side of this mixer, and the phase-locked loop which sets up the oscillation frequency of this oscillator, and is characterized by said CPU being what inputs the error signal according to channel selection information into said phase-locked loop.

[Claim 3] It is a satellite broadcasting service receiving system equipped with the antenna which receives the electric wave from a broadcasting satellite, the outdoor arrangement installed in a RF side, and the indoor arrangement installed in a low frequency side. Said outdoor arrangement The frequency changing circuit which changes into an intermediate frequency signal said electric wave received with said antenna, The demodulator circuit which restores to the output of this frequency changing circuit to the digital signal of low frequency, It has the 1st CPU which the local oscillation frequency of said frequency changing circuit is changed, and tunes it in. Said indoor arrangement The decoder which decodes the digital signal from said demodulator circuit to the video signal and sound signal of an analog, It has the 2nd CPU which communicates with said 1st CPU and transmits channel selection information. Furthermore, the satellite broadcasting service receiving system characterized by having the multi-conductor cable which transmits said digital signal to said indoor arrangement from said outdoor arrangement, and is used for communication between said 1st CPU and said 2nd CPU.

[Claim 4] The frequency mixer with which said frequency changing circuit considers said electric wave as one input, The variable frequency oscillator which generates the RF signal of the local oscillation

---

**LEGAL STATUS**

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office